

REMARKS

The Office Action mailed November 1, 2006 has been carefully considered and the following is responsive thereto. Claims 1-45 are pending in the present application.

At page 2 of the Office Action, the Examiner again provisionally rejected claims 44 and 45 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-17, 20, 21 and 23-27 of copending application Serial No. 10/824,793.

Applicants again request that this rejection be held until such time as notice of patentable subject matter has been received in the applications. Applicants will file an appropriate terminal disclaimer at that time if necessary.

At page 3 of the Office Action, the Examiner maintained the rejection of claims 1, 6, 7 and 28 under 35 USC 103 as being obvious over Guiseley (U.S. Patent 4,443,486) for the reasons set out in the previous Office Action mailed March 6, 2006. In the present Office Action, the Examiner alleges that Guiseley discloses conditions which are well-known in the art wherein carrageenan is used to prepare pudding which results in a gel being produced and refers to column 1, paragraph 5. The Examiner also alleges that, since Guiseley discloses carrageenan having a viscosity of 5 to 20 mPa.s, which covers the viscosity values disclosed in the instant claims, such carrageenan also suggests the solids content disclosed in the instant claims and similar amounts (70%) of carrageenan present in the compositions. The Examiner additionally indicated that Applicants' arguments regarding the gelling temperature of the carrageenan are not persuasive since the gelling temperature is not disclosed in claims 1, 6, 7 and 28.

Applicants traverse this rejection and request reconsideration thereof based upon the remarks set forth in the response filed August 7, 2006, which are incorporated herein by reference, as well as the additional comments set forth herein. In summary, Applicants maintain that Guiseley does not disclose or suggest a homogeneous, thermoreversible gel comprising the claimed carrageenan, its content in the gel and/or the solids content of the gel.

First, the Examiner argues that Applicants' arguments of record are not persuasive because "Guiseley does disclose conditions which are well known in the art wherein carrageenan

is used to prepare pudding which results in a gel being produced" (see page 4 of the Office Action). However, Applicants point out that this disclosure in Guiseley is directed to *the prior art carrageenan materials*. Importantly, Guiseley discloses that the low molecular weight carrageenan extract of the *Guiseley invention* is used as a stabilizer for chocolate milk because it is indicated therein that it will *not* lead to gelation (see col. 5, lines 39-40). Therefore, contrary to the Examiner's position, the carrageenan materials of the Guiseley invention are specifically disclosed as being useful therein because they would NOT lead to gelation.

Second, the Examiner also indicates that Applicants' arguments in regard to the presently claimed solids content and weight percent of carrageenan are unpersuasive "since the Guiseley patent discloses carrageenan having a viscosity of 5 to 20 mPa.s, which covers the viscosity values of the disclosed in the instant claims, which also suggests the solids content disclosed in the instant claims. Furthermore, the comparative viscosity values disclosed for the carrageenan composition in the instant claims and Guiseley patent suggests similar amounts (70%) of carrageenan present in the compositions" (see page 4 of the Office Action). These positions are not understood. As mentioned above, Guiseley does NOT disclose that the materials of the Guiseley invention lead to gelation, so it is not understood how Guiseley could disclose or suggest the gels of the present invention. Moreover, as pointed out in footnote 1 of Applicants response, the carrageenan disclosed in Guiseley has a *water* viscosity at 1.5% concentration and 75°C of not less than 5m.Pa.s and not more than about 20 m.Pa.s., in distinction to the present claims wherein the carrageenan has a viscosity of 5 to less than 10 cP at 75 C when measured in 0.10 molar *aqueous sodium chloride* solution containing 1.5% by weight of the carrageenan.

Finally, the Examiner argues that Applicants' position regarding the gelling temperature is not persuasive since the claims do not disclose the gelling temperature. Applicants respectfully submit that the claims do not need to recite the gelling temperature as suggested by the Examiner. That is, Applicants pointed out in the last response that the gelling temperature of the claimed homogeneous, thermoreversible gels is lower than the gelling temperature of gels containing carrageenan of similar type and content having a higher molecular weight. The lower gelling temperature is a property of the claimed homogeneous, thermoreversible gels, and Applicants' remarks referred to the claimed gels, not the carrageenan alone.

To Applicants' surprise, in high solids carrageenan gels, such as at least 40% solids, the gels and gel films containing reduced molecular weight carrageenans of the present invention result in a highly desirable lowering of the gelling temperature. The gelling temperature is significantly reduced in such gels as shown at pages 7 and 8 of the specification. Lower gelling temperatures of the gels considerably benefits processing of the gels and overcomes problems associated with high gelling temperatures. Nothing in Guiseley suggests lowering of the gelling temperatures of homogeneous, thermoreversible gels with a high solids content of at least 40% when using reduced molecular weight carrageenan that has a viscosity of 5 to less than 10 cP when measured in accordance with the present claims.

In summary, it is clear that Guiseley does not disclose or suggest the gels of the present invention. As noted above, Guiseley actually teaches away from the gels of the present invention. Guiseley discloses that the low molecular weight materials disclosed therein are desirable for use as a stabilizer for chocolate milk because such materials may be used "*without running the risk of gelation*" (emphasis added). In addition, Guiseley does not disclose or suggest the claimed gels wherein the gel has a solids content of at least 40%, and the reduced molecular weight carrageenan is present in an amount of at least 70% of all carrageenan present in the gel.

In view of the foregoing, it is respectfully submitted that the gels of claims 1, 6 and 7 and the edible product of claim 28 are not obvious in view of Guiseley. Accordingly, withdrawal of this section 103 rejection is again requested.

At page 5 of the Office Action the Examiner rejected claims 2-5, 8-27, 29, 30-34, 44 and 45 under 35 USC 103 as being unpatentable over Guiseley (U.S. Patent No. 4,443,486) as applied to claims 1, 6, 7 and 28 above, and further in view of Gennadios (U.S. Patent No. 6,214,376) for the reasons set out in the previous Office Action mailed March 6, 2006. In the present Office Action, the Examiner indicated that Applicants' previously filed arguments are not persuasive because the Gennadios patent was cited only to show that the subject matter presented in the dependent claims (claims 2-5, 8-27, 29, 30-34, 44 and 45) do not disclose information that would indicate allowable subject matter beyond the material disclosed in instant claims 1, 6, 7 and 8.

Applicants traverse this rejection and respectfully request reconsideration thereof based on the comments of record, which are incorporated herein by reference, as well as the comments set forth herein.

More specifically, as discussed above, Guiseley does not disclose or suggest a homogeneous, thermoreversible gel comprising the claimed carrageenan, its content in the gel and/or the solids content of the gel, and Applicants submit that this rejection should be withdrawn on this basis.'

In addition, whatever the reason for citing Gennadios, this patent does not cure the deficiencies of Guiseley, and the Examiner has not explained why one skilled in the art would combine the references to obtain the presently claimed invention. Indeed, Gennadios is directed to *film forming* compositions comprising kappa carrageenan and discloses that these film formulations would be useful to make soft capsules. As mentioned above, Guiseley teaches that the low molecular weight materials of the invention disclosed therein are beneficial in chocolate milk because they do *not* run the risk of gelation. There is no disclosure or suggestion in Gennadios of the reduced molecular weight carrageenan having the claimed viscosity that is present in the presently claimed homogeneous, thermoreversible gels. Additionally, there is no disclosure or suggestion in Gennadios of forming gels having a solids content of at least 40% using a reduced molecular weight carrageenan that has a viscosity of 5 to less than 10 in an amount of at least 70% of all carrageenan present in the gel, or the beneficial lowering of the gelling temperatures associated with the use of such materials.

The Examiner has not provided any basis for why one skilled in the art, when reading a reference concerned with using certain carrageenan materials in chocolate milk (because they do not run the risk of gelation), would also conclude that such materials could be used in film forming compositions. Indeed, persons skilled in the art reading the Guiseley and Gennadios references would conclude that the low molecular weight materials in Guiseley ought *not* to be used in gels as disclosed by Gennadios because the carrageenan extract of Guiseley is disclosed to avoid the risk of gelation. Applicants respectfully submit that claims 2-5, 8-27, 29, 30-34, 44 and 45 are not obvious over Guiseley in view of Gennadios. Withdrawal of this section 103 rejection is again requested.

At page 5 of the Office Action, the Examiner maintained the rejection of claims 35-43 under 35 USC 103 as unpatentable over Gennadios (U.S. Patent 6,214,376) in view of Guiseley (U.S. Patent 4,443,486) for the reasons set out in the Office Action mailed March 6, 2006. In the present Office Action, the Examiner asserted that Applicants' previous arguments are not persuasive because Guiseley discloses carrageenan having a viscosity of 5 to 20 mPa.s, which covers the viscosity values disclosed in the instant claims and also discloses conditions which are well known in the art wherein carrageenan is used to prepare pudding which results in a gel being produced (column 1, 5th paragraph).

Applicants traverse this rejection and respectfully request reconsideration thereof based on the comments of record, which are incorporated herein by reference, as well as the comments set forth herein. That is, as mentioned above, one skilled in the art would not have combined the references, in any order, to arrive at the presently claimed invention in view of the noted deficiencies in these references. Moreover, the claims involved in this rejection are directed to methods of preparing gels comprising the gel of claims 1-26 (claim 35), methods of preparing soft capsules comprising the gels of claims 1-26 (claim 38) and a process for lowering the gelling temperature of a composition comprising using the carrageenan of claim 1 (claim 43).

There is nothing about the cited references, in any order or combination, that discloses or suggests the claimed processes for making gels, processes for making soft capsules or processes for lowering gelling temperatures comprising utilizing the claimed carrageenan having a viscosity of 5 to less than 10 cP at 75 °C when measured in a 0.10 molar aqueous sodium chloride solution containing 1.5% by weight of the carrageenan based on the weight of all components in the solution. Nor is there anything in the references, in any order or combination, that suggests the claimed processes having a solids content of at least 40%, the reduced molecular weight carrageenan of the invention, the amount of the reduced molecular weight carrageenan being present in an amount of at least 70% of all carrageenan present in the gel nor that suggests the beneficial lowering of the gelling temperatures associated with the use of such materials. *One reading both references would conclude that the low molecular weight materials of Guiseley ought not to be used in Gennadios as such materials are taught to avoid the risk of gelation.*

Applicants again submit that the methods of claims 35-43 are not obvious over Gennadios in view of Guiseley. Withdrawal of this section 103 rejection is requested.

In view of the above, the present application is believed to be in a condition ready for allowance. Reconsideration of the application is requested and an early Notice of Allowance is earnestly solicited.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 10884-00025-US. A duplicate copy of this paper is enclosed.

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